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Overall Approach

Bone, Cartilage, or Extract Thereof ----- &gt;

+

Biological, Chemical Agent or Condition\* ----- &gt;

More Specific Example

Bone Matrix

+

Collagenase

Substrate(s) ----- &gt;

Collagen ---- &gt; Collagen fragments

\* 1) Biological agent (e.g., protease, lipase, etc.)

\* 2) Chemical agent (e.g., CNBr, LiCl, etc.)

\* 3) Condition (e.g., heat, radiation)

## Figure 1A

Overall Approach

Bone, Cartilage, or Extract Thereof -----&gt;

+

Biological, Chemical Agent or Condition\* -----&gt;

Bone Matrix

+

PPC (e.g., furin)

Substrate(s) -----&gt;

Propeptide ----> Mature peptide  
(e.g., proBMP2) (mature BMP2)

\* 1) Site-specific (e.g., PPCs)

\* 2) Amino acid-specific (e.g., trypsin, papain)

\* 3) Semi-specific (e.g., pepsin)

- a) Exogenous protease, lipase, glycosidase
- b) Endogenous protease, lipase, glycosidase

## Figure 1B

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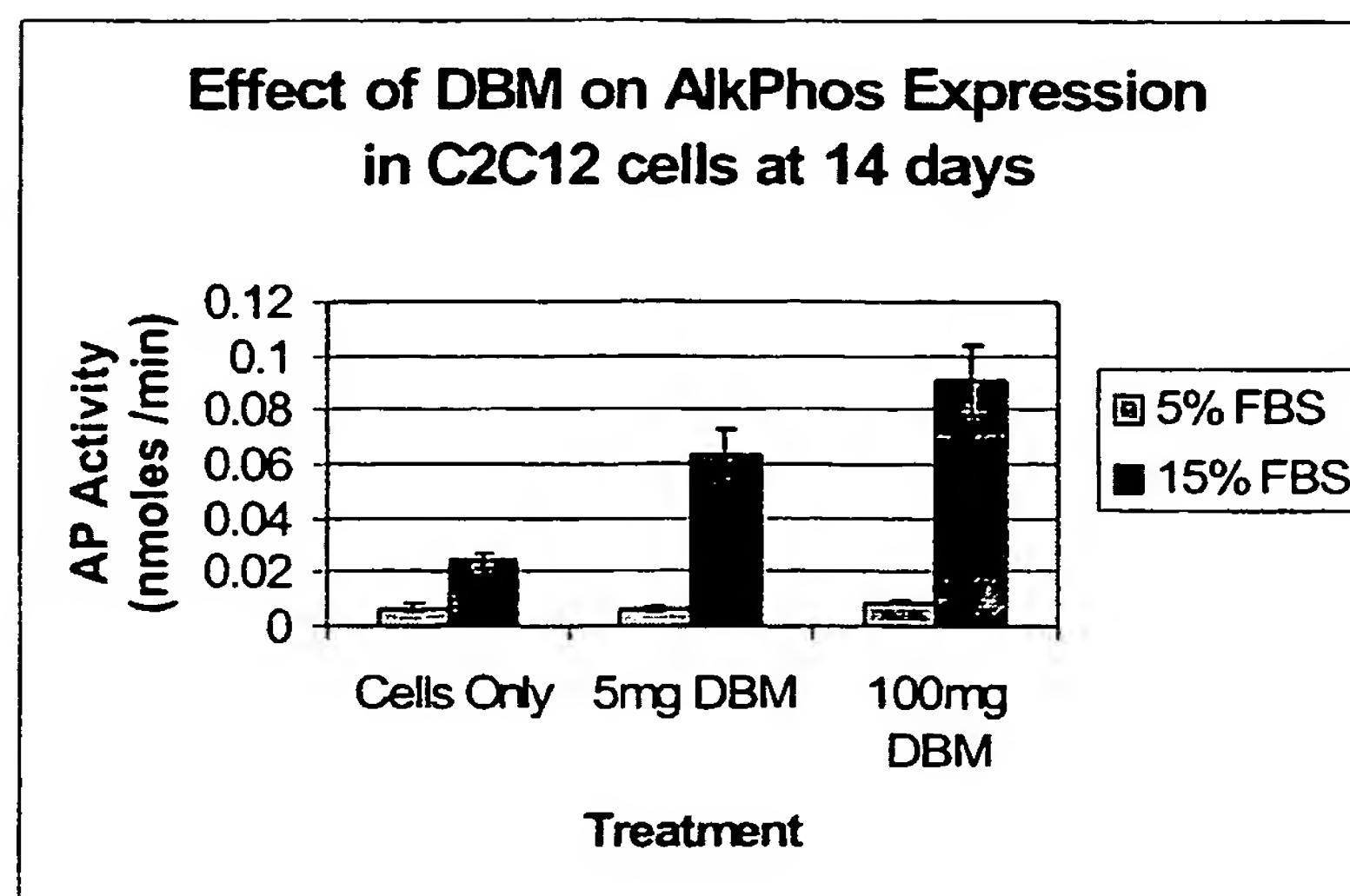


Figure 2

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**Alkaline Phosphatase Up-regulation in C2C12 Cells by Collagenase  
Digested DBM**

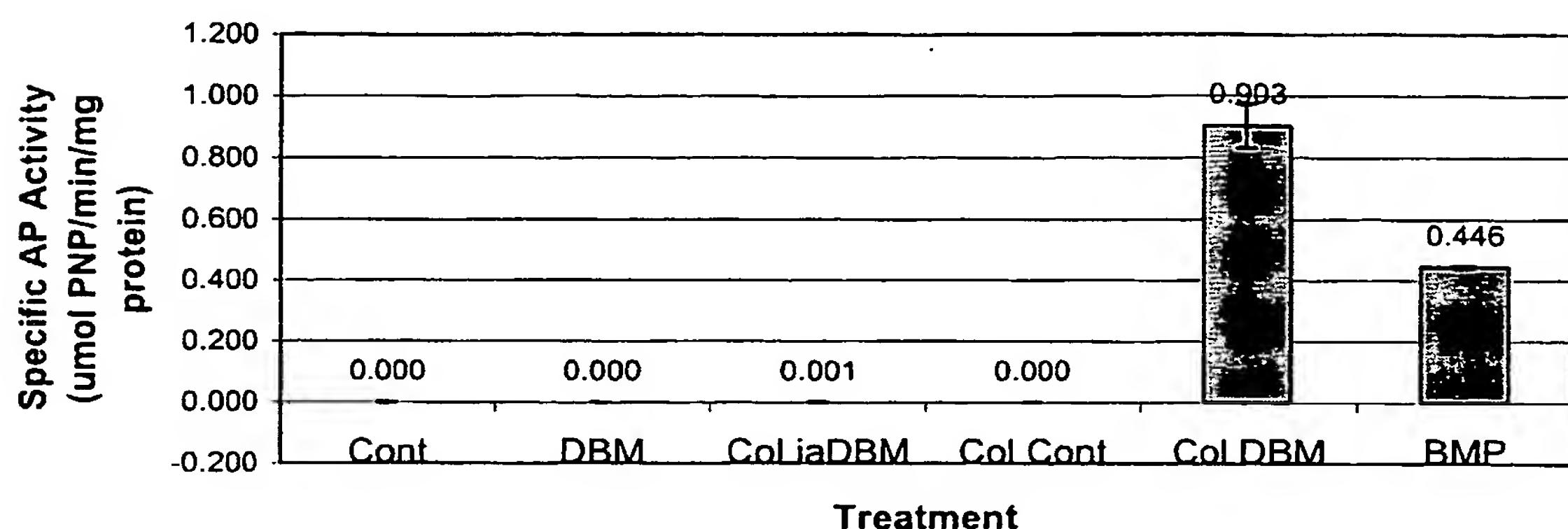


Figure 3

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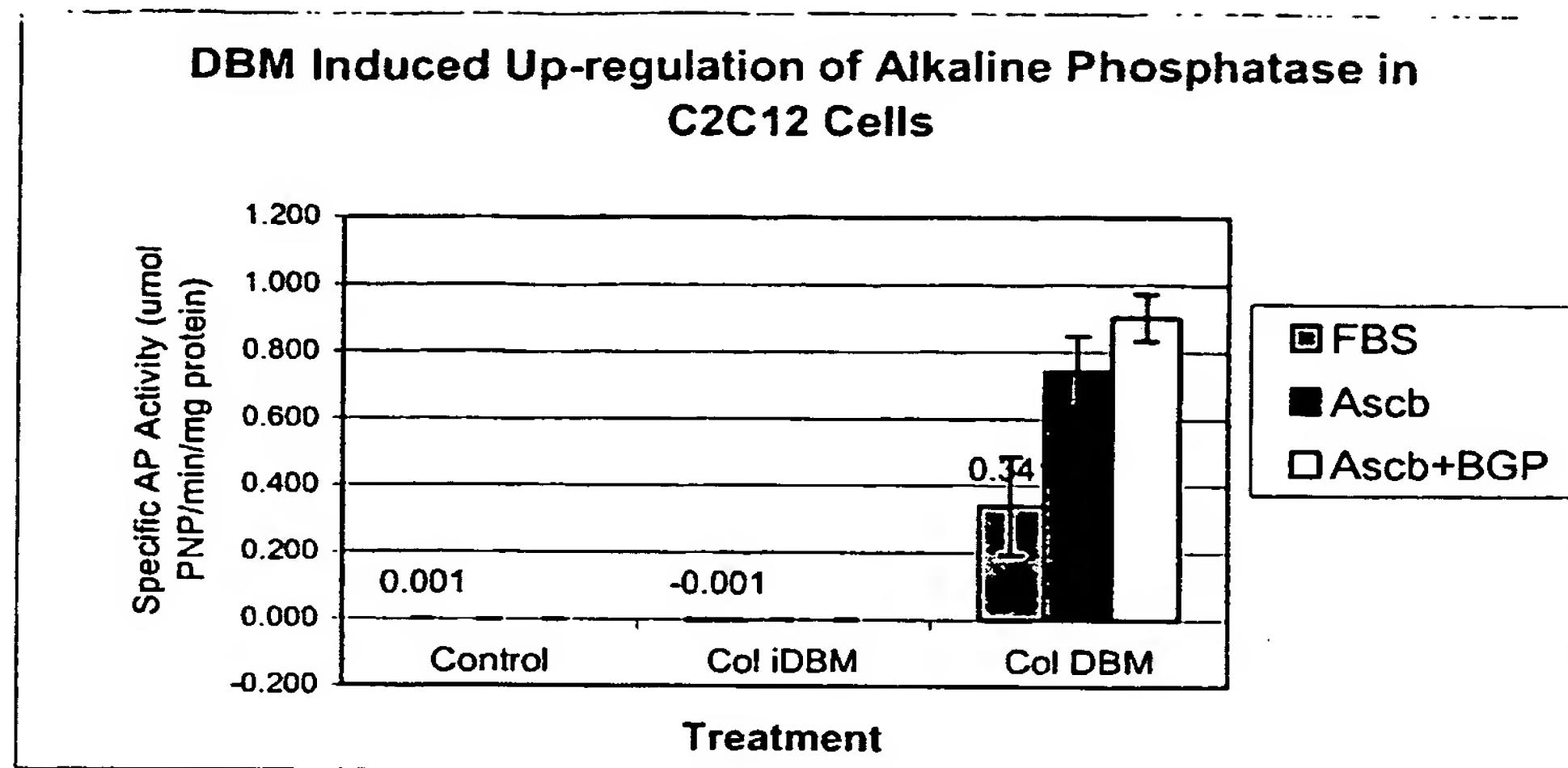


Figure 4

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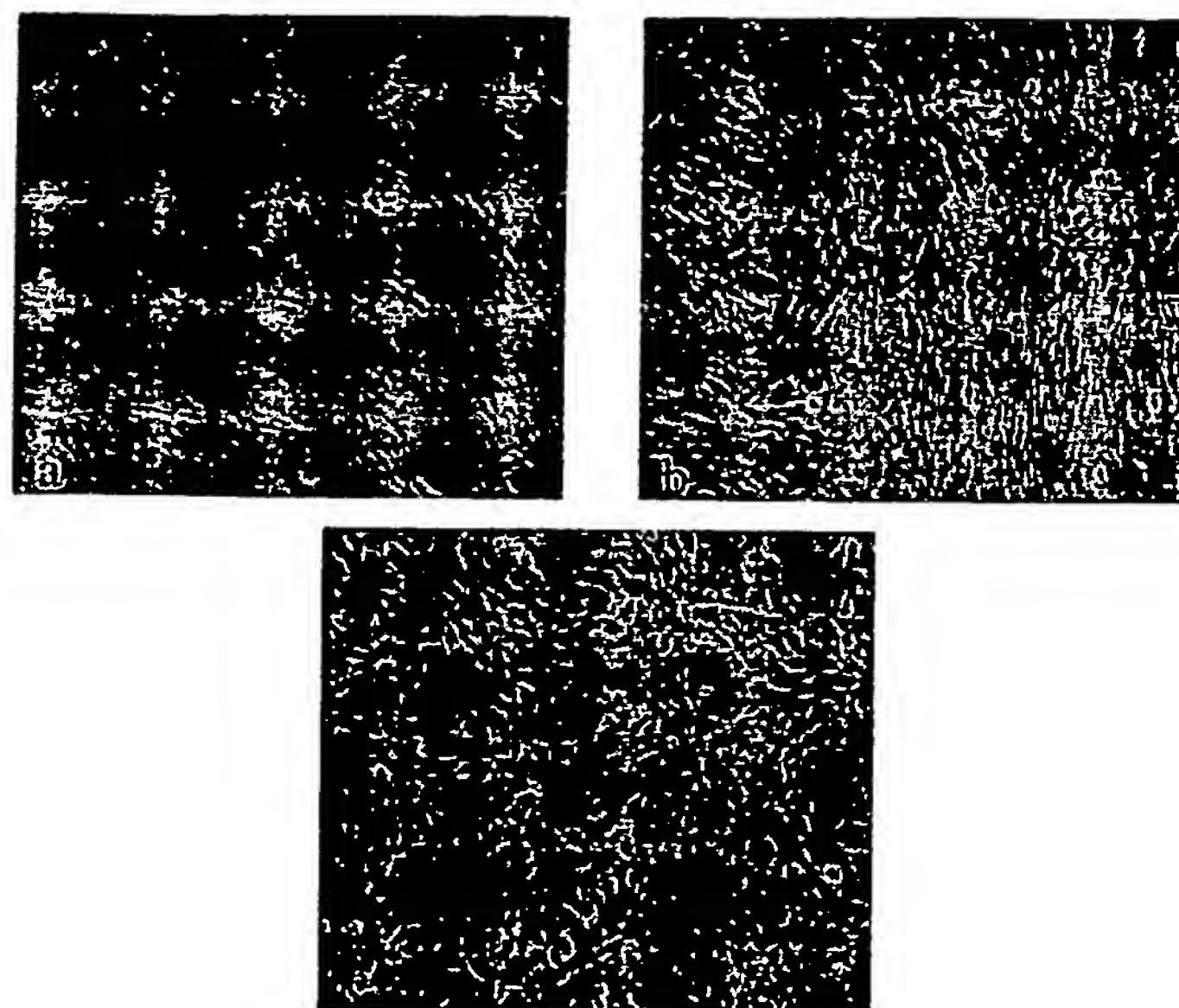


Figure 5

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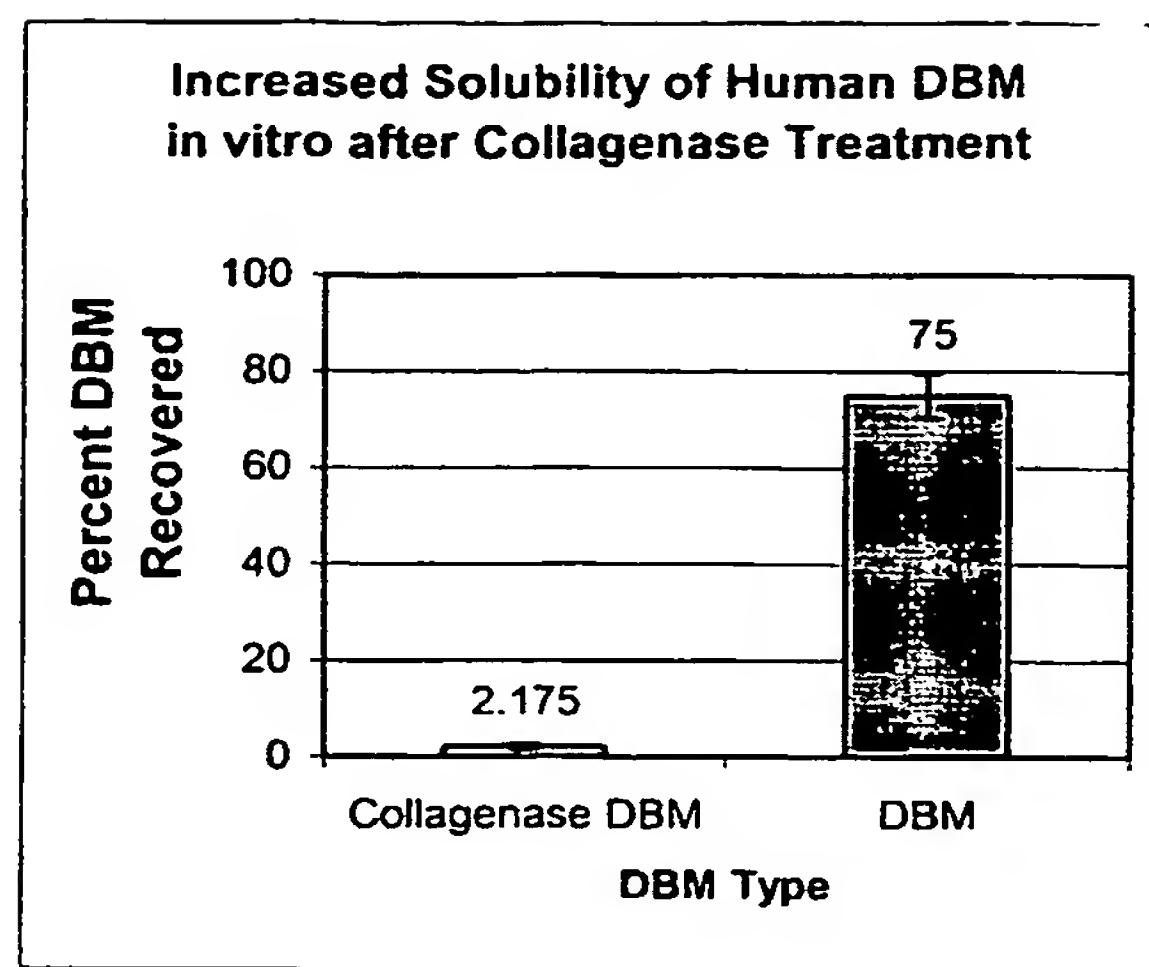


Figure 6

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Figure 7A

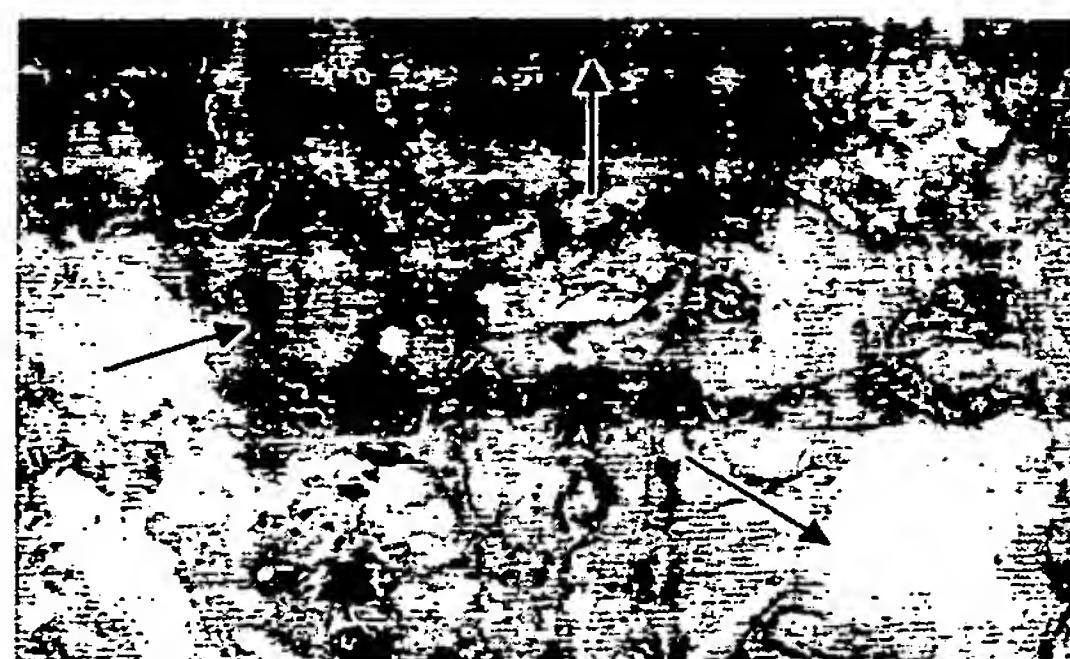


Figure 7B